

REMARKS

Claim 1 is amended, Claims 5-9 are cancelled and Claims 10-13 are added. Claims 1-4 and 10-13, as amended, remain in the application. No new matter is added by the amendments to the claims.

The Rejections:

In the Final Office Action dated August 4, 2006, the Examiner rejected Claims 1-3, 5, 6, 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Thielow et al (US 6,381,917) in view of Yoshikatsu et al (US 5,165,505).

In reference to the claim language referring to the heating whereby the front wall curves and the back wall retains the rearward door gap unchanged, the Examiner stated that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. According to the Examiner, if the prior art structure is capable of performing the intended use, then it meets the claim and in a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

Regarding Claims 1, 5 and 8, the Examiner stated that Thielow discloses a shaft door (1, Fig. 1) with a closing edge (14), wherein the door panel includes a front wall (2) and a back wall (3), which walls are spaced apart and connected together by thermally releasable means (Col. 1, Line 43); however, Thielow does not disclose a profile member fastened to the back wall of the door panel. The Examiner stated that Yoshikatsu teaches a pair of door panels (Fig. 1) each having a profile member (28, Fig. 2 and 3) thermally non-detachably fastened (Col. 5, Lines 18 and 36, and Col. 7, Line 18) to the back wall and forming a rearward portion of the closing edge of the door panel as well as a portion of the front wall (region of 29, 21, 24A and 30, Fig. 3) forming a forward portion of the closing edge of the door panel, said profile member forming a rearward door gap with an adjacent closing edge when the door is in a closed state, and said gap remaining unchanged due to a heating/expansion of the front wall, and it would have been obvious to one of ordinary skill in the art to modify the invention of Thielow with the teaching of

Yoshikatsu to afford the means of channeling smoke for its capture and ventilation, for the safety of occupants in a shaft.

Regarding Claim 2, the Examiner stated that Yoshikatsu teaches said profile member configured to form said rearward door gap with an adjacent closing edge of an opposite door panel (Fig. 3).

Regarding Claim 3, the Examiner stated that Yoshikatsu teaches a forward door gap and a rearward door gap having lateral positions different with respect to one another (Fig. 3).

Regarding Claim 6, the Examiner stated that Yoshikatsu teaches a forward door gap and said rearward door gap having positions different with respect to one another (Fig. 3), and it would have been obvious to one of ordinary skill in the art to modify the invention of Thielow with the teaching of Yoshikatsu in keeping with a means of channeling smoke for its capture and ventilation, for the purpose of occupant safety and isolating environments to facilitate recovery.

The Examiner rejected Claims 4 and 7 under 35 U.S.C. 103(a) as being unpatentable over Thielow in view of Yoshikatsu, and in further view of Pelvilain (US 5,293,962).

The Examiner stated that the invention of Thielow lacks the door gaps of the instant invention and Yoshikatsu teaches a rearward and forward door gap, yet the door gaps extend parallel to one another. Furthermore, the Examiner admitted that Yoshikatsu is silent regarding a door gap crossing an axis of symmetry of the respective door panels. The Examiner stated that Pelvilain, however, teaches his door gaps (Fig. 2) of oblique orientation to one another and crossing the axis of symmetry of his door panels (29 and 24), to derive the feature of his "...second hollow space 32...", which "...serves as a chimney when the doors are closed." (Col. 3, Line 8), and it would have been obvious to modify the invention of Thielow with the teaching of Yoshikatsu, as furthered by Pelvilain, to further the beneficial venting of smoke for the safety of occupants in the shaft.

With respect to Claim 9, the Examiner stated that though neither of the inventions of the aforementioned claims disclose a stationary door post for engagement of a single door panel, it would have been obvious to one of ordinary skill in the art to provide said post of design to provide the desired ventilation effects of the teaching of Yoshikatsu teach as furthered by

Pelvilain, in as much as the mating portions of the engaging members are operationally identical whether one or both of said members are slidably movable.

The Response:

In the Advisory Action dated December 13, 2006, the Examiner that:

“The amendment to the first line of the specification, wherein reference to a prior (pending) application whereby the instant application is a continuation of the pending application, is considered as new matter because prosecution of the instant application was closed as defined under MPEP 1.114 (b), inspite that the reference was submitted in an oath or declaration at the time of the filing date (See MPEP 201.17), Furthermore, certified copies of the foreign priority documents remain outstanding. Finally, reference was made in the amendment to a CON of PCT/CH02/00624, rather than PCT/CH02/00341 as referenced in the oath.”

Applicants believe that the amendment at the third line of the specification, as set forth above, now is proper since a Request for Continued Examination was filed with this Preliminary Amendment. Applicants corrected the PCT application number.

Applicants are filing under separate cover: 1) a certified copy of priority document EP 01 810 640.1; 2) a certified translation of EP 01 810 640.1; a copy of PCT/CH02/00341 published by WIPO as WO 03/004394 A2; and a certified translation of PCT/CH02/00341. In accordance with MPEP § 1895.01:

“A certified copy of the international application (and an English translation) of the international application may be required by the examiner to perfect the claim for benefit under 35 U.S.C. 120 and 365(c) if the international application did not originate in the United States and such is necessary, for example, where an intervening reference is found and applied in a rejection of one or more claims. If the international application was published by the International Bureau pursuant to PCT Article 21, then a certified copy would not normally be necessary.”

Thus, Applicants believe that all of the documents necessary to support the claimed priority.

The Examiner rejected Claims 1-3, 5-6, 8 and 9 as being unpatentable over Thielow in view of Yoshikatsu.

Applicants' amended Claim 1 defines:

an elevator shaft door having a door panel with a closing edge, wherein the door panel includes a front wall and a back wall, which walls are spaced apart and connected together by thermally releasable connecting means, comprising:

a profile member thermally non-detachably fastened to the back wall of the door panel and forming a rearward portion of the closing edge of the door panel and forming a rearward door gap with an adjacent closing edge when the door is in closed state; and

a portion of the front wall forming a forward portion of the closing edge of the door panel whereby due to a heating of the door panel, the back wall including said rearward portion of the closing edge is at least partially separated from the front wall and due to a the heating the front wall curves and the back wall including the rearward portion of the closing door edge substantially retains the rearward door gap unchanged.

This result is reached because in the event of a fire the front wall, which is directly exposed to the fire, curves in a 3-dimensional manner; but because of the separation of the back wall and the correlated separation of the rearward part of the closing edge, a rearward gap defined by the rearward part of the closing edge doesn't enlarge (it remains unchanged) and therefore an extension of the fire into the elevator shaft is prevented.

Thielow discloses a shaft door wherein the door panel 1 includes a front wall 2 and a back wall 3, which walls are spaced apart and connected together by thermally releasable means 17. Thielow is silent regarding:

a profile member thermally non-detachably fastened to the back wall of the door panel and forming a rearward portion of the closing edge of the door panel and forming

a rearward door gap with an adjacent closing edge when the door is in closed state;
a portion of the front wall forming a forward portion of the closing edge of the door panel;
whereby due to a heating of the door panel, the back wall including said rearward portion of the closing edge is at least partially separated from the front wall; and
due to the heating the front wall curves and the back wall including the rearward portion of the closing door edge substantially retains the rearward door gap unchanged.

Yoshikatsu discloses door panels having a profile member thermally non-detachable fastened to the back wall and forming a rearward portion of the closing edge of the door panel as well as a portion of the front wall forming a forward portion of the closing edge of the door panel, the profile member forming a rearward door gap with an adjacent closing edge when the door is in a closed state. More specifically, Yoshikatsu shows a fire-preventing and smoke preventing elevator landing door. The door 5 is, as shown in Fig. 2, constructed as a thick structure comprised of multi layers formed of a main unit 14 of the door and a heat insulation panel 16 whereby the door is capable of attaining a considerable heat insulating effect. The main unit 14 is provided with a surface plate 6A, a vertical reinforcing material 7A, a back plate 9A and a heat insulating material 17A. A further heat insulating sheet 18 is placed between the surface plate 6A and the vertical reinforcing material 7A and the back plate 9A. The heat insulation panel 16 is fixed to the main unit 14 and the space between is filled with the heat insulation material 17A. A door stopping plate 28 is mounted on each of the facing edges of the main units 14. These door stopping plates 28 approach each other to be positioned side by side in proximity, with a clearance left between them when the door is closed caused by the door stopping rubber 30.

An expansive material 24A (Fig. 3) is interposed between the door stopping plate 28 and a decorated plate 21 on the right hand unit 14, and this expansive material 24A will expand with heat at the time of a fire to close the clearance between the decorated plate 21 on the right side and the door stopping plate 28, thereby preventing smoke accompanied with heat from flowing into the elevator shaft 8 through the clearance mentioned above. Further, a blind plate 31 is

mounted on each back plate 9A, this blind plate 31 being formed with an approximately square pipe section, and is positioned on the side of the door stopping plate 28 facing the elevator shaft 8 so that it guides air, which will achieve a cooling effect, in the vertical direction.

Yoshikatsu is silent regarding:

a door gap which remains unchanged due to a heating of the front wall; and

front wall and back wall, which walls are spaced apart and connected together by thermally releasable connecting means.

Yoshikatsu implements two mandatory measures to prevent an extension of a fire to the elevator shaft. First, the overall bending is reduced by implementation of oblong holes in the connection between the back plate 9A and the surface 6A, respectively between the decorated plate 21 and the insulating panel 16 (Col. 6, Line 55 to Col. 7, Line 44). The oblong holes reduce an overall bending of the door panel, but a remaining bending, which occurs necessarily in case of fire is automatically transmitted to the closing edge because the oblong holes allow a movement in one direction only.

Second, Yoshikatsu introduces an expansive material 24 in all embodiments which closes all gaps in case of fire. The expansive material has the function to prevent extension of smoke to the elevator shaft. The use of the expansive material requires a specific allocation of the material in a way that the expansion of the material is sufficient to reach the point which is targeted to close.

There are no suggestions to combine the teaching of Yoshikatsu with the teaching of Thielow because the use of oblong holes as disclosed by Yoshikatsu would not prevent an enlargement of the gap in case of fire, and because the oblong holes allow a movement in one direction only but the door bends in a 3-dimensional manner, and the implementation of an expansive material gives no real benefit because the expansion would be absorbed by the space resulting from the detached back wall. So there wouldn't be a leading of the expansive material to a specific target and no beneficial result occurs.

Additionally, a detachment of the profile member (31, 9A) of Yoshikatsu, Fig. 3 from the front panel construction wouldn't be beneficial, because a channeling of smoke as required by Yoshikatsu wouldn't be effective if not connected to the panel any more.

Also, note that the front wall 2 of Thielow forms the entire closing edge (Fig. 6) and the back wall 3 cannot substantially retain the rearward door gap unchanged as recited in Applicants' claims.

Therefore, there is really no motivation to modify the invention of Thielow with the teaching of Yoshikatsu and there is no success, because such a modification would not prevent the enlargement of the gap between the reward part of the closing edge and the corresponding counterpart, and it wouldn't lead to a special benefit, because Yoshikatsu actively closes the gap using the expansive material.

Thielow teaches that the front and rear walls are releasably attached to permit movement when heated. If one were to attach the Yoshikatsu plate 28 to the Thielow rear wall 3, there is no teaching or suggestion of how such a structure would "substantially retain the rearward door gap unchanged".

The above arguments also apply to new Claim 10 that defines "a profile member including a first end thermally non-detachably fastened to the back wall of the door panel and including a second free end, said profile forming a rearward portion of the closing edge of the door panel and forming a rearward door gap with an adjacent closing edge when the door is in a closed state". Claims 11-13 correspond to Claims 2-4 respectively.

Regarding Claim 4, the Pelvilan rearward door gap does not cross an axis of symmetry of the door panel and the opposite door panel. As shown in Fig. 2, the rearward door gap extends forward along the axis of symmetry, jogs to the left and then continues forward.

In view of the above arguments, Applicants believe that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.